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10/583,583	06/19/2006	Noriyoshi Munenaga	2006-1352	1458

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EXAMINER	
YANCHUK, STEPHEN J	
ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
03/16/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/583,583	MUNENAGA ET AL.	
	Examiner	Art Unit	
	STEPHEN YANCHUK	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7,10 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7,10 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in prior office action.

2. Grounds for new rejection in this action are necessitated by amendment

Claim Rejections - 35 USC § 102

Claims 1, 3, 5-7, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagino et al. (JP Pub. No. 2002/170546) ("Hagino").

Regarding claim 1, Hagino teaches a nonaqueous electrolyte secondary battery comprising: a rolled electrode body 4 (power generating element) having a positive electrode 41, a negative electrode 43, and a separator 42 (see paragraph [0014] and figure 7), a barrel 11 (battery case) for housing the rolled electrode body 4 (power generating element); a lid 12 (battery cover) for closing the cylindrical battery can 1 (battery case); a terminal 91 provided for the lid 12 (battery cover) (see paragraph [0021] and figure 4); a lead 7 for electrically connecting (sandwiching, Figure 2) the terminal and the positive electrode or the negative electrode (see paragraph [0034] and figure 2); and a collecting terminal 5 (member), which is fit in the barrel 11 (battery case), and by which the lead 7 and the axis non-coating part 40, which is the exposed portion of the positive electrode or the negative electrode are electrically connected to each other is sandwiched (see paragraph [0014] and figure 3). Element 5 is in contact with the electrode body 4 which is in contact with the barrel; Element 5 is in contact with the barrel.

Regarding claim 3, Hagino teaches a non-axis coating part 40 that is the exposed portion of the positive electrode 41 or the negative electrode 43 (see paragraph [0014]). Hagino teaches a collecting terminal 5 (member) comprising a rivet member 54 and a washer member 53 on both sides of a non-coating axis part 40 (see paragraph [0026] and figures 1-2). Hagino also teaches the lead 7 and non-axis coating part 40 are compressed between a plate-like head 51 of rivet member 54 and a washer member 53 (see paragraph [0027]), which is the equivalent of applicants' member presses the part in which the lead and the positive electrode or the negative electrode are electrically connected to each other.

Regarding claim 5, Hagino teaches collecting terminal 5 (member) is indirectly adhered to the barrel 11 (battery case) via the electrode terminal mechanism 9 (see paragraph [0025] and figure 1).

Regarding claim 6, Hagino teaches the lead 7 and the axis non-coating part 40 are strongly compressed (electrically connected to each other) (see paragraph [0027]). Hagino teaches the lead 7 extends from each collecting terminal 5 (member) by the side of the positive electrode and negative electrode (see paragraph [0034]), which is the equivalent of applicants' a part in which the positive electrode and the lead are electrically connected to each other and a part in which the negative electrode and the lead are electrically connected to each other are sandwiched by the member.

Regarding claim 7, Hagino teaches each collecting terminal 5 (member) comprises a rivet member 54 and a washer member 53 (a plurality of members) (see paragraph [0014] and figure 3).

Regarding claim 10, Hagino teaches aluminum foil constitutes the positive electrode (see paragraph [0036]); copper foil constitutes the negative electrode (see paragraph [0036]); the positive electrode 41 and the negative electrode 43 both have an axis non coating part 40 (non coating portion) that is not covered with active material (see paragraph [0014] and figure 1); an inner surface of lower lid 12 (inner bottom face) provided for the barrel 11 (battery case) (see figure 4); a positive lead 7 as one of the lead, which connects the aluminum foil to the electrode terminal 91 (see paragraph [0014] and figure 1); and a negative lead 7 which connects the copper foil to the lower electrode terminal 91 which is a part of the lower lid 12 (inner bottom face), wherein the part is where the positive lead 7 and the aluminum foil are electrically connected to each other (see figure 1). Hagino also teaches the positive electrode 41 in an upper end of the rolled electrode body 4 (power generating element) and the negative electrode 43 in a lower end of rolled electrode body 4 (power generating element) (see figure 7).

Regarding claim 11, Hagino teaches aluminum foil constitutes the positive electrode (see paragraph [0036]); copper foil constitutes the negative electrode (see paragraph [0036]); the positive electrode 41 and the negative electrode 43 both have an axis non coating part 40 (non coating portion) that is not covered with active material (see paragraph [0014] and figure 1); an inner surface of lower lid 12 (inner bottom face) provided for the barrel 11 (battery case) (see figure 4); a positive lead 7 as one of the lead, which connects the aluminum foil to the lower electrode terminal 91 which is a part of the lower lid 12 (inner bottom face) (see paragraph [0014] and figure 1); and a negative lead 7 as one of the lead, which connects the copper foil to the electrode terminal 91, wherein the part is where the negative lead 7 and the copper foil are electrically connected to each other (see figure 1). Hagino indirectly teaches the positive

electrode 41 in a lower end of the rolled electrode body 4 (power generating element) and the negative electrode 43 in an upper end of rolled electrode body 4 (power generating element) (see figure 4) because Hagino teaches a battery can 1 comprising an electrode terminal mechanism 9 attached to each lid 12 and that the lead 7 on the positive electrode side and negative electrode side is attached to the electrode terminal mechanism 9 (see figure 4). The determination of placement of the negative pole in an upper or lower end is relative and a person having ordinary skill in the art would be capable of positioning the poles in opposite directions to provide for a functional battery.

Claims 1, 3, 5-7, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tasai et al. (WO Pub. No. 03100886), (see corresponding U.S. 2006/0051664 for translation "Tasai").

Regarding claim 1, Tasai teaches a battery comprising: a power generating element 1 having a positive electrode la, a negative electrode lb, and a separator lc (see paragraph [0003]); a battery case 8 for housing the power generating element (see paragraph [0043]); a cover plate 6 (battery cover) for closing the battery case (see paragraph [0043]); a terminal 3 provided for the cover plate 6 (battery cover) (see paragraph [0043]); a current collector connector 2 (lead) (see paragraph [0043] and figure 1); and a ridge section of pinching (sandwiching) plate 4 (member) which is fit in the battery case 8 and by which a part in which the current collector connector 2 (lead) and positive electrode la or the negative electrode 1 b are electrically connected to each other is sandwiched (see figure 1). Element 4 is in contact with the electrodes and the electrodes are in contact with the case; Element 4 is in contact with the case.

Regarding claim 3, Tasai teaches the ridged section of pinching plate 4 (member) firmly connects and fixes the connecting plate portion 2b of current collector connector 2 (lead) and the metal foil of the positive or negative electrode (see paragraph [0039]), which is the equivalent of applicants' presses the part in which the current collector connector 2 (lead) and the positive electrode la or the negative electrode lb are electrically connected to each other.

Regarding claim 5, Tasai teaches the ridged section of the pinching plate 4 (member) is adhered to the battery case (see figure 4).

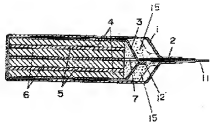
Regarding claim 6, Tasai teaches both of a part in which the positive electrode la and the current collector connector 2 (lead) are electrically connected to each other and a part in which the negative electrode lb and the current collector connector 2 (lead) are electrically connected to each other are sandwiched by the ridged section of the pinching plate 4 (member) (see figures 1 and 7). Regarding claim 7, Tasai teaches the pinching plate 4 (member) is constructed by a plurality of ridged sections 4 (plurality of members) (see figure 1).

Regarding claim 10, Tasai teaches an aluminum foil ld which is a non-coating portion of the positive electrode and is projected in an side corresponding to the positive electrode la (upper end) of the power generating element; a copper foil le which is a non-coating portion of the negative electrode and is projected in a side corresponding to the negative electrode 1 b (lower end) of the power generating element (see paragraph [0003] and figure 3) because "upper and lower" are relative terms; a side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) provided for the battery case 8 (see figure 4); a positive current collector connector 2 (lead) as one of the lead, which connects the aluminum foil ld to the terminal 3 (see paragraph [0003] and figures 3-4); and a negative current collector connector 2 (lead) as one of the lead,

which connects the copper foil le to the side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) via the pinching plate 4 (member), wherein the part is where the positive current collector connector 2 (lead) and the aluminum foil ld are electrically connected to each other.

Regarding claim 11, Tasai teaches an aluminum foil ld which is a non-coating portion of the positive electrode and is projected in a side corresponding to positive electrode la (lower end) of the power generating element; a copper foil le which is a non-coating portion of the negative electrode and is projected in a side corresponding to negative electrode 1 b (upper end) of the power generating element (see paragraph [0003] and figure 4) because "upper and lower" are relative terms; a side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) provided for the battery case; a positive current collector connector 2 (lead) as one of the lead, which connects the aluminum foil ld to the side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) via the pinching plate 4 (member) (see figure 4); and a negative lead 1 b as one of the lead, which connects the copper foil to the terminal 3, wherein the part is where the negative current collector connector 2 (lead) and the copper foil le are electrically connected to each other.

Claims 1, and 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al (JP 2002/175790).



Claim 1, 3, 5-7: Yoshida teaches a battery comprising positive electrode, negative electrode, and separator within a case and cover wherein the case and cover allow for a lead to protrude from (terminal). Yoshida teaches a member (7, 15) that is in contact with the inner wall of the battery case and sandwich the lead and electrode [Figure 1]. Element 15 is taught to be an adhesive, melting resin material [Paragraph 13].

Claim Rejections - 35 USC § 103

Claim 10, 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida, as applied to claims 1, 3-7 above, in view of Tasai et al.

Claim 10: Yoshida teaches the above limitations wherein the leads are connected to the top and bottom of the case and lid construction. Yoshida fails to teach the positive and negative electrodes with the structure claimed.

Regarding claim 10, Tasai teaches an aluminum foil ld which is a non-coating portion of the positive electrode and is projected in an side corresponding to the positive electrode la (upper end) of the power generating element; a copper foil le which is a non-coating portion of the negative electrode and is projected in a side corresponding to the negative electrode 1 b (lower end) of the power generating element (see paragraph [0003] and figure 3) because "upper and lower" are relative terms; a side of battery case 8 parallel to pinching plate 4 (member) (inner

bottom face) provided for the battery case 8 (see figure 4); a positive current collector connector 2 (lead) as one of the lead, which connects the aluminum foil ld to the terminal 3 (see paragraph [0003] and figures 3-4); and a negative current collector connector 2 (lead) as one of the lead, which connects the copper foil le to the side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) via the pinching plate 4 (member), wherein the part is where the positive current collector connector 2 (lead) and the aluminum foil ld are electrically connected to each other.

Regarding claim 11, Tasai teaches an aluminum foil ld which is a non-coating portion of the positive electrode and is projected in a side corresponding to positive electrode la (lower end) of the power generating element; a copper foil le which is a non-coating portion of the negative electrode and is projected in a side corresponding to negative electrode 1 b (upper end) of the power generating element (see paragraph [0003] and figure 4) because "upper and lower" are relative terms; a side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) provided for the battery case; a positive current collector connector 2 (lead) as one of the lead, which connects the aluminum foil ld to the side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) via the pinching plate 4 (member) (see figure 4); and a negative lead 1 b as one of the lead, which connects the copper foil to the terminal 3, wherein the part is where the negative current collector connector 2 (lead) and the copper foil le are electrically connected to each other.

It would have been obvious for one of ordinary skill in the art to use the teaching of Tasai to modify Yoshida because Tasai teaches a current collector structure that has high reliability [Paragraph 6-9].

Claim 10, 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida, as applied to claims 1, 3-7 above, in view of Hagino et al

Claim 10: Yoshida teaches the above limitations wherein the leads are connected to the top and bottom of the case and lid construction. Yoshida fails to teach the positive and negative electrodes with the structure claimed.

Regarding claim 10, Hagino teaches aluminum foil constitutes the positive electrode (see paragraph [0036]); copper foil constitutes the negative electrode (see paragraph [0036]); the positive electrode 41 and the negative electrode 43 both have an axis non coating part 40 (non coating portion) that is not covered with active material (see paragraph [0014] and figure 1); an inner surface of lower lid 12 (inner bottom face) provided for the barrel 11 (battery case) (see figure 4); a positive lead 7 as one of the lead, which connects the aluminum foil to the electrode terminal 91 (see paragraph [0014] and figure 1); and a negative lead 7 which connects the copper foil to the lower electrode terminal 91 which is a part of the lower lid 12 (inner bottom face), wherein the part is where the positive lead 7 and the aluminum foil are electrically connected to each other (see figure 1). Hagino also teaches the positive electrode 41 in an upper end of the rolled electrode body 4 (power generating element) and the negative electrode 43 in a lower end of rolled electrode body 4 (power generating element) (see figure 7).

Regarding claim 11, Hagino teaches aluminum foil constitutes the positive electrode (see paragraph [0036]); copper foil constitutes the negative electrode (see paragraph [0036]); the positive electrode 41 and the negative electrode 43 both have an axis non coating part 40 (non coating portion) that is not covered with active material (see paragraph [0014] and figure 1); an

inner surface of lower lid 12 (inner bottom face) provided for the barrel 11 (battery case) (see figure 4); a positive lead 7 as one of the lead, which connects the aluminum foil to the lower electrode terminal 91 which is a part of the lower lid 12 (inner bottom face) (see paragraph [0014] and figure 1); and a negative lead 7 as one of the lead, which connects the copper foil to the electrode terminal 91, wherein the part is where the negative lead 7 and the copper foil are electrically connected to each other (see figure 1). Hagino indirectly teaches the positive electrode 41 in a lower end of the rolled electrode body 4 (power generating element) and the negative electrode 43 in an upper end of rolled electrode body 4 (power generating element) (see figure 4) because Hagino teaches a battery can 1 comprising an electrode terminal mechanism 9 attached to each lid 12 and that the lead 7 on the positive electrode side and negative electrode side is attached to the electrode terminal mechanism 9 (see figure 4). The determination of placement of the negative pole in an upper or lower end is relative and a person having ordinary skill in the art would be capable of positioning the poles in opposite directions to provide for a functional battery.

It would have been obvious for one of ordinary skill in the art to modify Yoshida with Hagino because Hagino teaches a battery with lower internal resistance and better productivity [Problem to be solved].

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagino, as applied to claims 1,3, 5-7, 10, and 11 above, in view of Iwaizono et al. (U.S. Pat. No. 6524739) ("Iwaizono").

Regarding claim 4, Hagino fails to teach the member has an insulating property. However, Iwaizono teaches resin rivets 62 as fastening means for a secondary battery (see column 5, lines 66-67 and column 6, lines 1-4). Iwaizono teaches the use of insulating resin rivets enables both sides of the circuit board to be fastened to other components with reliable electrical insulation therebetween (see column 5, lines 66-67 and column 6, lines 1-4). Therefore, it would have been obvious to a person having ordinary skill in the art to substitute the rivet as described by Hagino for the insulating resin rivet because Iwaizono teaches the use of the insulating resin rivet improves efficiency by providing reliable electrical insulation (see column 5, lines 66-67 and column 6, lines 1-4).

Response to Arguments

1. Applicant's arguments filed 12/14/2009 have been fully considered but they are not persuasive. The applicant's principal argument is that the "members" of prior art are not "in contact with" an inner wall.

2. The members are in contact with the inner wall based on the interpretation that if an element A is wrapped an element B and that element B is in direct physical contact or coupled to an element C, than A is "in contact with" C. In both examples of the prior art, the "member" element does not move in relation to the casing due to it being coupled to the electrodes because the electrodes are held in a constant position by the case wall.

3. The examiner would like to suggest adding further limiting language to the structure of the "member" itself as opposed to how it relates to the rest of the battery.

Adding in elements such materials and language pertaining to the "member being the same size as the battery cover with voids for the combination area of the electrode and lead" would take the case closer to patentability by overcoming the art of record.

4. In response to applicant's argument that Hagino is not combinable with Iwaizono, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Iwaizono teaches a mechanism that can enable Hagino to have short circuit protection should the event of a abnormality in the cell configuration be such that the casing is in contact with each of the positive and negative member elements. This is one situation where the advantages taught by Iwaizono of electrical insulation would be appropriate to help further explain the rational for combination.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN YANCHUK whose telephone number is (571)270-7343. The examiner can normally be reached on Monday through Thursday 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/STEPHEN YANCHUK/
Examiner, Art Unit 1795

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795